

1007



SDMS Doc ID 2033214

# **ENVIRON**

June 13, 2003

Mr. Kamron Saremi  
California Regional Water Quality Control Board,  
Santa Ana Region  
3737 Main Street, Suite 500  
Riverside, California 92501-3339

Re: Soil Sampling Along Drainage between Areas A and E  
Wyle Laboratories, 1841 Hillside Avenue, Norco, California ("site")

Dear Mr. Saremi:

## **INTRODUCTION**

As requested during our meeting at the above-referenced site, which took place on May 29, 2003, enclosed please find the analytical results of soil sampling recently conducted at the Wyle site. As we discussed, Wyle Laboratories ("Wyle") conducted soil sampling and attempted to conduct ground water sampling along the drainage between Areas A and E, which trends toward Goldenwest Lane. Wyle conducted the investigations voluntarily, which were not requested by any regulatory agency. The results of these investigations, which generally indicated that chemicals were not detected in soil, and that ground water is not present in sediments underlying the area, are discussed herein.

## **BACKGROUND**

A small portion of the northwest corner of the site drains north and northwestward rather than entering the main surface water drainage for the site. Several test areas operated in this portion of the site, and runoff from portions of these test areas may enter the small drainage lying between Areas A and E (see Figure 1). Therefore, to provide additional confidence that significant releases have not occurred in this area, a soil sampling and analysis program was conducted first by Kennedy Jenks Consultants ("Kennedy/Jenks") in November 2001, and then by ENVIRON International Corporation ("ENVIRON") in April 2003.

## **FIELD INVESTIGATION**

### **Kennedy/Jenks**

On November 7, 2001, Kennedy/Jenks collected four soil samples along the axis of the drainage, at the locations depicted on Figure 1 (DAS-1 through DAS-4). At each location, one soil sample was

collected at a depth of 6 to 12 inches below ground surface (bgs). The soil samples were analyzed for the following compounds:

- Total Recoverable Petroleum Hydrocarbons using Environmental Protection Agency ("EPA") Method 418.1
- Extractable Petroleum Hydrocarbons using modified EPA Method 8015 (carbon chain)
- Volatile Organic Compounds ("VOCs") using EPA Method 8010.
- Explosives Residuals using EPA Method 8321
- Title 22 Metals using EPA Methods 6010/7000
- Perchlorate using EPA Method 314M

According to the results obtained by Kennedy/Jenks, chemicals generally were not detected in any of the soil samples analyzed, except as noted below. Initially, an explosive residual (PETN) was detected in DAS-2 at a concentration (130 micrograms per kilogram ("µg/kg")), which is close to the method detection limit (120 µg/kg) for EPA Method 8321. However, the sample was retested using a mass spectrometer, which is considered to be more accurate in identifying compounds than the liquid chromatography used for EPA Method 8321A. PETN was not detected. Therefore, both the laboratory (STL Denver) and Kennedy/Jenks concluded that PETN was not present in the soil sample. In addition, total recoverable petroleum hydrocarbons ("TRPH") were detected in DAS-1, which is located close to the motor pool area at concentration of 175 milligrams per kilogram ("mg/kg").

On November 7, 2001, Kennedy/Jenks also collected four soil samples in proximity to two explosive magazines in Area D, which formerly were used to store explosives. Four soil-sampling locations were selected in the field with the assistance of Wyle employees (see Figure 1, OTS-1 through OTS-4). The selected locations were located immediately down slope of the two closed explosive magazines. One soil sample was collected adjacent to each magazine and the second soil sample was collected immediately down slope from each magazine. At the time of sampling, it was clear that the area had been burned in a grass fire. Soil samples were collected below the zone that had been charred by the fire.

Composite soil samples were collected at each location as follows. A 2-foot square area was measured and the fire-charred soil was removed carefully. The upper 1-inch of soil from the area was scraped into a pile, mixed, and a representative portion of the soil was transferred into an appropriate sampling container. This composite procedure was performed to improve the likelihood that explosive residue, if present, would be incorporated into the sample and detected. The samples were tested for explosive residuals using EPA Method 8321. Explosive residuals were not detected in any of the soil samples submitted to the laboratory.

Laboratory analytical reports for the eight soil samples collected by Kennedy/Jenks are presented in Attachment A.

Kamron Saremi

-3-

June 13, 2003

## **ENVIRON**

As a follow up to Kennedy/Jenks soil sampling, on April 24, 2003 ENVIRON conducted additional limited subsurface investigation along the same drainage, with the goal of sampling ground water, if any, present in sediment underlying the drainage. The fieldwork was conducted within one week of a rainfall event to increase the likelihood of encountering ground water in the drainage. ENVIRON advanced three borings (see Figure 1, SB-1 through SB-3) along the axis of the drainage in topographically low and vegetated areas, which were considered to be likely areas of ground water occurrence. Soil borings were advanced using Geoprobe equipment to approximately 13 to 15 feet bgs, where drilling refusal was encountered. Ground water was not encountered in any of the soil boring locations, and the soil in all borings was described as "dry" to the total depth investigated. One soil sample was obtained from Boring SB-2 at the base of the boring (13.5 feet) to assess the soil in the event that soil in the area is periodically saturated. The soil sample was analyzed for perchlorate using EPA Method 314M. Perchlorate was not detected in the soil sample.

The laboratory analytical report for the soil sample collected by ENVIRON is presented in Attachment A.

## **CONCLUSIONS**

Based on the results of the investigations described above, significant concentrations of chemicals were not detected in near surface soils in the drainage between A and E Hills or near the former explosive magazines. Furthermore, ground water does not appear to be present in sediment underlying the drainage, limiting the potential for alluvial ground water discharge off-site in this area.

We trust that this is all the information required at this time. If you have questions, please contact Carol Serlin at 949-798-3660.

Very truly yours,

  
Carol L. Serlin, R.G.  
Principal

  
Safaa Dergaham  
Associate

Attachments: Figure 1

Attachment A: Laboratory Analytical Reports

P:\W\Wyle Labs\Norco\Drainage Sampling final letter.doc [04-8099L]

cc: Ms. Dawn Richmond, USEPA

**FIGURE**

### Legend

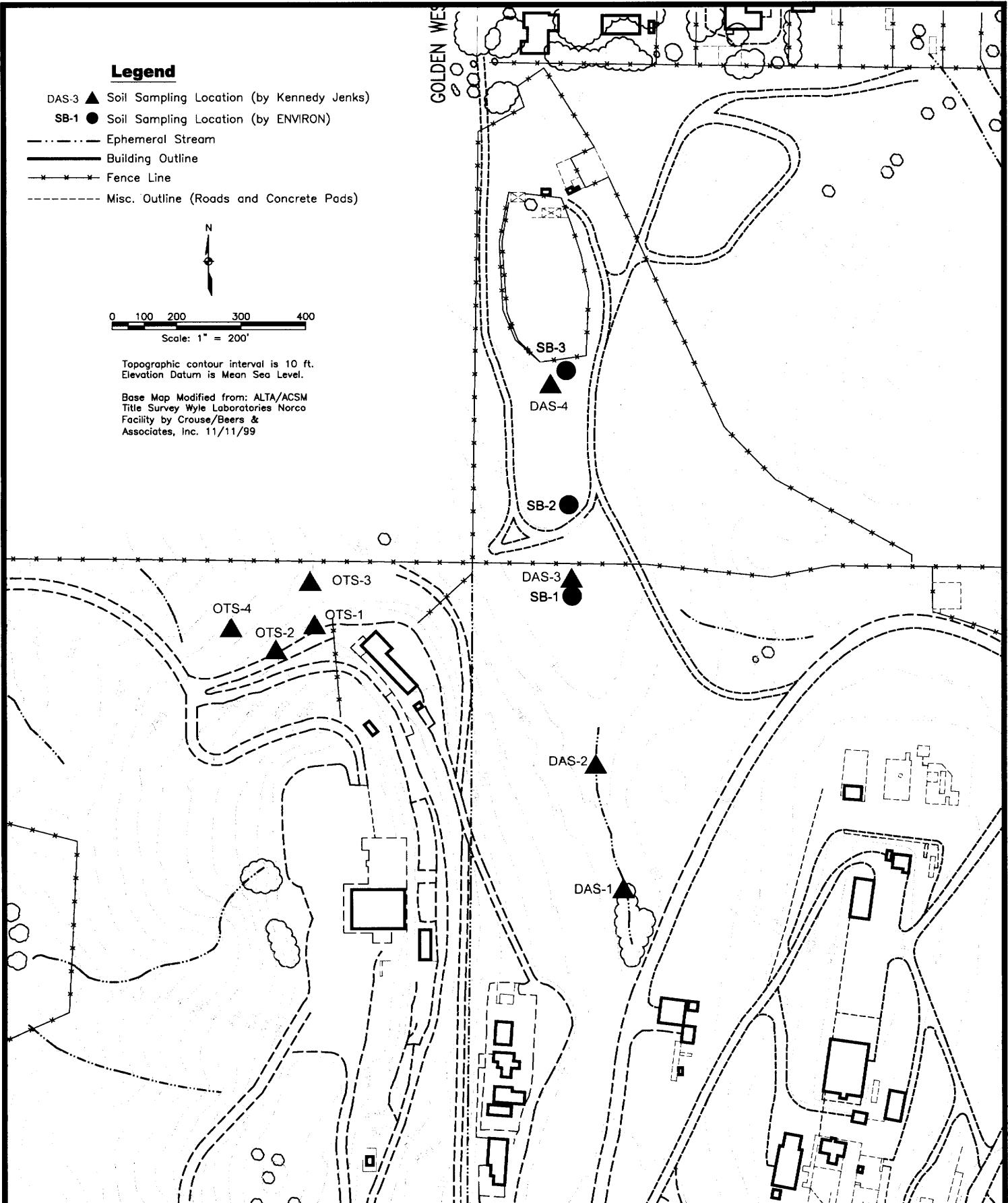
- DAS-3 ▲ Soil Sampling Location (by Kennedy Jenks)
- SB-1 ● Soil Sampling Location (by ENVIRON)
- - - Ephemeral Stream
- Building Outline
- \* \* \* Fence Line
- - - Misc. Outline (Roads and Concrete Pads)



0 100 200 300 400  
Scale: 1" = 200'

Topographic contour interval is 10 ft.  
Elevation Datum is Mean Sea Level.

Base Map Modified from: ALTA/ACSM  
Title Survey Wyle Laboratories Norco  
Facility by Crouse/Beers &  
Associates, Inc. 11/11/99



**ENVIRON**

**Soil Sampling Locations**  
Wyle Laboratories  
Norco, California

**Figure 1**

**A T T A C H M E N T   A**

**Laboratory Analytical Reports**

**S E V E R N  
T R E N T  
S E R V I C E S**

**STL Denver**  
4955 Yarrow Street  
Arvada, CO 80002-4517

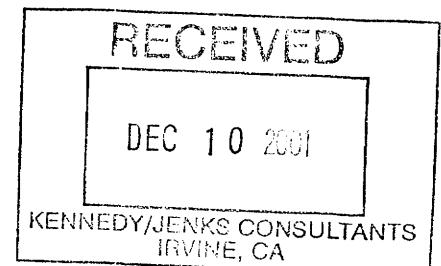
Tel: 303 736 0100  
Fax: 303 431 7171  
[www.stl-inc.com](http://www.stl-inc.com)

## **ANALYTICAL REPORT**

**Project Site: Wyle, Norco**

**Project Number: 994012.00**

**Lot #: D1K080347**



**Peter J. Murphy, R.G.  
Kennedy/Jenks Consultants, Inc.  
2151 Michelson Drive, Ste. 100  
Irvine, CA 92612**

**STL DENVER**



**Brian Stringer  
Project Manager**

**Revised December 6, 2001  
November 26, 2001**

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## ***Standard Deliverables***

Report Contents	Total Number of Pages
-----------------	--------------------------

### ***Standard Deliverables***

*The Cover Letter and the Report Cover page are considered integral parts of this Standard Deliverable package. This report is incomplete unless all pages indicated in this Table of Contents are included.*

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- **Table of Contents**
- **Case Narrative**
- **Executive Summary – Detection Highlights**
- **Methods Summary**
- **Method/Analyst Summary**
- **Lot Sample Summary**
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- **QC Evaluation and/or Data Reports**
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# **Project Narrative**

**Lot D1K080347**

## **Introduction**

**This analytical report is revised to include the “Report on Explosives Analysis of Samples D1K080347-006 by APCI LC/MS/MS” as part of the project narrative. This one-page report summarizes the LC/MS/MS analysis requested by the client to confirm a positive result for the compound PETN found during the initial LC/MS analysis. The initial PETN result was not confirmed by LC/MS/MS analysis and is determined to be not present above the reporting limit. The STL lot number has also been corrected on the analytical report cover page.**

The following report contains the analytical results for eight solid samples received at STL Denver on November 8, 2001 from Kennedy/Jenks Consultants, Inc. All samples were received according to documented sample acceptance procedures.

Dilution factors and footnotes have been provided on each datasheet to assist in the interpretation of the results.

STL Denver utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the analytical methods summary page in accordance with the methods indicated. A summary of QC data for these analyses is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. The test results shown in this report meet all requirements of NELAC and any exceptions are noted below. This report shall not be reproduced, except in full, without written permission of STL Denver.

## **Sample Arrival and Receipt**

The sample containers were received in the laboratory at 3.5°C on November 8, 2001. All sample containers were received in acceptable condition.

## **LC/MS Explosives, by Method SW846 8321A**

STL utilized LC/MS instrumentation for the explosives analysis by method SW846 8321A included in this report. Due to a reporting limitation, the analysis and QC report pages list the instrument as “GC/MS Semivolatiles” instead.

The batch MS/MSD on sample D1K080347-003 demonstrated percent recoveries and precision (RPD) outside established control limits for Tetryl. It is not obvious that this is due to matrix interference, but because the associated LCS and Method blank samples were in control, no further corrective action was taken.



*STL Denver*

## **Report on Explosives Analysis of Samples D1K080347-006 by APCI LC/MS/MS**

On November 8, 2001 STL Denver received eight soil samples from Kennedy/Jenks Consultants. These samples were analyzed by method 8321A under STL's system as Lot Number D1K080347. The results from this test contained a result for PETN in sample number D1K080347-006 that was questionable due to retention time and peak shape. An additional procedure to confirm the PETN result in this sample using LC/MS/MS was scheduled.

### **November 28, 2001 LC/MS/MS Analysis**

Other than the use of two quadrupoles, the instrument conditions were as described in STL Denver's SOP # DEN-LC-0010. Standards of PETN prepared at 10, 100 and 300 ng/mL were analyzed with the following results:

	<u>Parent Ion</u>	<u>Daughter Ion Monitored</u>	<u>Area</u>
10 ppb	378	62.2	646
100 ppb	378	62.2	6439
300 ppb	378	62.2	16663

The sample extract was analyzed with the following results:

D1K080347-006                          No peak detected for PETN

### **Conclusions:**

The LC/MS/MS experiment demonstrated, with a high degree of confidence, that PETN is not present in the sample at 120 ug/kg or higher.

Report Prepared by Mark Dymerski  
LC/MS Chemist

A handwritten signature in black ink that reads "Mark Dymerski". Below the signature, the date "12/6/01" is written in a smaller, handwritten style.

## EXECUTIVE SUMMARY - Detection Highlights

D1K080347

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
OTS-1-SFC-11-7-01 11/07/01 09:30 001				
Percent Moisture	2.2	0.10	%	MCAWW 160.3 MOD
OTS-2-SFC-11-7-01 11/07/01 09:40 002				
Percent Moisture	11.1	0.10	%	MCAWW 160.3 MOD
OTS-3-SFC-11-7-01 11/07/01 09:51 003				
Percent Moisture	1.6	0.10	%	MCAWW 160.3 MOD
OTS-4-SFC-11-7-01 11/07/01 10:03 004				
Percent Moisture	1.6	0.10	%	MCAWW 160.3 MOD
DAS-1-SFC-11-7-01 11/07/01 11:17 005				
Percent Moisture	4.3	0.10	%	MCAWW 160.3 MOD
DAS-2-SFC-11-7-01 11/07/01 11:20 006				
PETN	130	120	ug/kg	SW846 8321A
Percent Moisture	1.2	0.10	%	MCAWW 160.3 MOD
DAS-3-SFC-11-7-01 11/07/01 11:40 007				
Percent Moisture	1.5	0.10	%	MCAWW 160.3 MOD
DAS-4-SFC-11-7-01 11/07/01 12:00 008				
Percent Moisture	0.92	0.10	%	MCAWW 160.3 MOD

## METHODS SUMMARY

D1K080347

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
LCMS by 8321A	SW846 8321A	
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

### References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

## METHOD / ANALYST SUMMARY

D1K080347

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
MCAWW 160.3 MOD SW846 8321A	Nathan Lovstad Steve Cowling	000090 008738

### References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

## SAMPLE SUMMARY

D1K080347

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
ENLTG	001	OTS-1-SFC-11-7-01	11/07/01	09:30
ENLTJ	002	OTS-2-SFC-11-7-01	11/07/01	09:40
ENLTK	003	OTS-3-SFC-11-7-01	11/07/01	09:51
ENLTL	004	OTS-4-SFC-11-7-01	11/07/01	10:03
ENLTM	005	DAS-1-SFC-11-7-01	11/07/01	11:17
ENLTN	006	DAS-2-SFC-11-7-01	11/07/01	11:20
ENLTP	007	DAS-3-SFC-11-7-01	11/07/01	11:40
ENLTQ	008	DAS-4-SFC-11-7-01	11/07/01	12:00

**NOTE (S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: OTS-1-SFC-11-7-01

## GC/MS Semivolatiles

Lot-Sample #....: D1K080347-001   Work Order #....: ENLTG1AC      Matrix.....: SOLID  
 Date Sampled...: 11/07/01 09:30   Date Received...: 11/08/01  
 Prep Date.....: 11/15/01      Analysis Date...: 11/20/01  
 Prep Batch #...: 1319590      Analysis Time...: 18:25  
 Dilution Factor: 1  
 % Moisture.....: 2.2      Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4,6-dinitrotoluene	ND	120	ug/kg	29
4-Amino-2,6-dinitrotoluene	ND	120	ug/kg	18
1,3-Dinitrobenzene	ND	120	ug/kg	22
2,4-Dinitrotoluene	ND	120	ug/kg	35
2,6-Dinitrotoluene	ND	120	ug/kg	12
HMX	ND	120	ug/kg	15
Nitrobenzene	ND	120	ug/kg	12
2-Nitrotoluene	ND	120	ug/kg	19
3-Nitrotoluene	ND	120	ug/kg	25
4-Nitrotoluene	ND	120	ug/kg	77
RDX	ND	120	ug/kg	20
Tetryl	ND	120	ug/kg	22
1,3,5-Trinitrobenzene	ND	120	ug/kg	12
2,4,6-Trinitrotoluene	ND	120	ug/kg	13
PETN	ND	120	ug/kg	77
Nitroglycerin	ND	120	ug/kg	61
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
Nitrobenzene-d5		RECOVERY	LIMITS	
		102	(66 - 156)	

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: OTS-2-SFC-11-7-01

## GC/MS Semivolatiles

Lot-Sample #....: D1K080347-002   Work Order #....: ENLTJ1AC      Matrix.....: SOLID  
 Date Sampled....: 11/07/01 09:40   Date Received...: 11/08/01  
 Prep Date.....: 11/15/01      Analysis Date...: 11/20/01  
 Prep Batch #....: 1319590      Analysis Time...: 18:57  
 Dilution Factor: 1  
 % Moisture.....: 11      Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4,6-dinitrotoluene	ND	130	ug/kg	31
4-Amino-2,6-dinitrotoluene	ND	130	ug/kg	20
1,3-Dinitrobenzene	ND	130	ug/kg	25
2,4-Dinitrotoluene	ND	130	ug/kg	38
2,6-Dinitrotoluene	ND	130	ug/kg	13
HMX	ND	130	ug/kg	17
Nitrobenzene	ND	130	ug/kg	13
2-Nitrotoluene	ND	130	ug/kg	21
3-Nitrotoluene	ND	130	ug/kg	27
4-Nitrotoluene	ND	130	ug/kg	84
RDX	ND	130	ug/kg	22
Tetryl	ND	130	ug/kg	25
1,3,5-Trinitrobenzene	ND	130	ug/kg	13
2,4,6-Trinitrotoluene	ND	130	ug/kg	15
PETN	ND	130	ug/kg	84
Nitroglycerin	ND	130	ug/kg	67
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
Nitrobenzene-d5		95	LIMITS (66 - 156)	

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: OTS-3-SFC-11-7-01

## GC/MS Semivolatiles

Lot-Sample #....: D1K080347-003   Work Order #....: ENLTK1AC      Matrix.....: SOLID  
 Date Sampled...: 11/07/01 09:51 Date Received...: 11/08/01  
 Prep Date.....: 11/15/01      Analysis Date...: 11/20/01  
 Prep Batch #....: 1319590      Analysis Time...: 19:29  
 Dilution Factor: 1  
 % Moisture.....: 1.6      Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4, 6-dinitrotoluene	ND	120	ug/kg	28
4-Amino-2, 6-dinitrotoluene	ND	120	ug/kg	18
1, 3-Dinitrobenzene	ND	120	ug/kg	22
2, 4-Dinitrotoluene	ND	120	ug/kg	35
2, 6-Dinitrotoluene	ND	120	ug/kg	12
HMX	ND	120	ug/kg	15
Nitrobenzene	ND	120	ug/kg	12
2-Nitrotoluene	ND	120	ug/kg	19
3-Nitrotoluene	ND	120	ug/kg	24
4-Nitrotoluene	ND	120	ug/kg	76
RDX	ND	120	ug/kg	20
Tetryl	ND	120	ug/kg	22
1, 3, 5-Trinitrobenzene	ND	120	ug/kg	12
2, 4, 6-Trinitrotoluene	ND	120	ug/kg	13
PETN	ND	120	ug/kg	76
Nitroglycerin	ND	120	ug/kg	61
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Nitrobenzene-d5		101	(66 - 156)	

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: OTS-4-SFC-11-7-01

## GC/MS Semivolatiles

Lot-Sample #....: D1K080347-004    Work Order #....: ENLTL1AC    Matrix.....: SOLID  
 Date Sampled....: 11/07/01 10:03    Date Received...: 11/08/01  
 Prep Date.....: 11/15/01    Analysis Date...: 11/20/01  
 Prep Batch #....: 1319590    Analysis Time...: 21:05  
 Dilution Factor: 1  
 % Moisture.....: 1.6    Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4, 6-dinitrotoluene	ND	120	ug/kg	28
4-Amino-2, 6-dinitrotoluene	ND	120	ug/kg	18
1, 3-Dinitrobenzene	ND	120	ug/kg	22
2, 4-Dinitrotoluene	ND	120	ug/kg	35
2, 6-Dinitrotoluene	ND	120	ug/kg	12
HMX	ND	120	ug/kg	15
Nitrobenzene	ND	120	ug/kg	12
2-Nitrotoluene	ND	120	ug/kg	19
3-Nitrotoluene	ND	120	ug/kg	24
4-Nitrotoluene	ND	120	ug/kg	76
RDX	ND	120	ug/kg	20
Tetryl	ND	120	ug/kg	22
1, 3, 5-Trinitrobenzene	ND	120	ug/kg	12
2, 4, 6-Trinitrotoluene	ND	120	ug/kg	13
PETN	ND	120	ug/kg	76
Nitroglycerin	ND	120	ug/kg	61
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
Nitrobenzene-d5		RECOVERY	LIMITS	
		103	(66 - 156)	

NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: DAS-1-SFC-11-7-01

## GC/MS Semivolatiles

Lot-Sample #....: D1K080347-005   Work Order #....: ENLTM1AC      Matrix.....: SOLID  
 Date Sampled....: 11/07/01 11:17   Date Received...: 11/08/01  
 Prep Date.....: 11/15/01      Analysis Date...: 11/20/01  
 Prep Batch #....: 1319590      Analysis Time...: 21:37  
 Dilution Factor: 1  
 % Moisture.....: 4.3      Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4,6-dinitrotoluene	ND	130	ug/kg	29
4-Amino-2,6-dinitrotoluene	ND	130	ug/kg	19
1,3-Dinitrobenzene	ND	130	ug/kg	23
2,4-Dinitrotoluene	ND	130	ug/kg	36
2,6-Dinitrotoluene	ND	130	ug/kg	13
HMX	ND	130	ug/kg	16
Nitrobenzene	ND	130	ug/kg	13
2-Nitrotoluene	ND	130	ug/kg	20
3-Nitrotoluene	ND	130	ug/kg	25
4-Nitrotoluene	ND	130	ug/kg	78
RDX	ND	130	ug/kg	21
Tetryl	ND	130	ug/kg	23
1,3,5-Trinitrobenzene	ND	130	ug/kg	13
2,4,6-Trinitrotoluene	ND	130	ug/kg	14
PETN	ND	130	ug/kg	78
Nitroglycerin	ND	130	ug/kg	63
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Nitrobenzene-d5		102	(66 - 156)	

## NOTE (S) :

Results and reporting limits have been adjusted for dry weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: DAS-2-SFC-11-7-01

## GC/MS Semivolatiles

Lot-Sample #....: D1K080347-006 Work Order #....: ENLTN1AC Matrix.....: SOLID  
 Date Sampled....: 11/07/01 11:20 Date Received...: 11/08/01  
 Prep Date.....: 11/15/01 Analysis Date...: 11/20/01  
 Prep Batch #....: 1319590 Analysis Time...: 22:09  
 Dilution Factor: 1  
 % Moisture.....: 1.2 Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4,6-dinitrotoluene	ND	120	ug/kg	28
4-Amino-2,6-dinitrotoluene	ND	120	ug/kg	18
1,3-Dinitrobenzene	ND	120	ug/kg	22
2,4-Dinitrotoluene	ND	120	ug/kg	34
2,6-Dinitrotoluene	ND	120	ug/kg	12
HMX	ND	120	ug/kg	15
Nitrobenzene	ND	120	ug/kg	12
2-Nitrotoluene	ND	120	ug/kg	19
3-Nitrotoluene	ND	120	ug/kg	24
4-Nitrotoluene	ND	120	ug/kg	76
RDX	ND	120	ug/kg	20
Tetryl	ND	120	ug/kg	22
1,3,5-Trinitrobenzene	ND	120	ug/kg	12
2,4,6-Trinitrotoluene	ND	120	ug/kg	13
PETN	130	120	ug/kg	76
Nitroglycerin	ND	120	ug/kg	61
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
Nitrobenzene-d5		100	LIMITS	(66 - 156)

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: DAS-3-SFC-11-7-01

## GC/MS Semivolatiles

Lot-Sample #....: D1K080347-007 Work Order #....: ENLTP1AC Matrix.....: SOLID  
 Date Sampled...: 11/07/01 11:40 Date Received...: 11/08/01  
 Prep Date.....: 11/15/01 Analysis Date...: 11/21/01  
 Prep Batch #....: 1319590 Analysis Time...: 08:53  
 Dilution Factor: 1  
 % Moisture.....: 1.5 Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4,6-dinitrotoluene	ND	120	ug/kg	28
4-Amino-2,6-dinitrotoluene	ND	120	ug/kg	18
1,3-Dinitrobenzene	ND	120	ug/kg	22
2,4-Dinitrotoluene	ND	120	ug/kg	35
2,6-Dinitrotoluene	ND	120	ug/kg	12
HMX	ND	120	ug/kg	15
Nitrobenzene	ND	120	ug/kg	12
2-Nitrotoluene	ND	120	ug/kg	19
3-Nitrotoluene	ND	120	ug/kg	24
4-Nitrotoluene	ND	120	ug/kg	76
RDX	ND	120	ug/kg	20
Tetryl	ND	120	ug/kg	22
1,3,5-Trinitrobenzene	ND	120	ug/kg	12
2,4,6-Trinitrotoluene	ND	120	ug/kg	13
PETN	ND	120	ug/kg	76
Nitroglycerin	ND	120	ug/kg	61
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Nitrobenzene-d5		100	(66 - 156)	

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: DAS-4-SFC-11-7-01

## GC/MS Semivolatiles

Lot-Sample #....: D1K080347-008    Work Order #....: ENLTQ1AC    Matrix.....: SOLID  
 Date Sampled....: 11/07/01 12:00    Date Received...: 11/08/01  
 Prep Date.....: 11/15/01    Analysis Date...: 11/21/01  
 Prep Batch #....: 1319590    Analysis Time...: 09:25  
 Dilution Factor: 1  
 % Moisture.....: 0.92    Method.....: SW846 8321A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
2-Amino-4,6-dinitrotoluene	ND	120	ug/kg	28
4-Amino-2,6-dinitrotoluene	ND	120	ug/kg	18
1,3-Dinitrobenzene	ND	120	ug/kg	22
2,4-Dinitrotoluene	ND	120	ug/kg	34
2,6-Dinitrotoluene	ND	120	ug/kg	12
HMX	ND	120	ug/kg	15
Nitrobenzene	ND	120	ug/kg	12
2-Nitrotoluene	ND	120	ug/kg	19
3-Nitrotoluene	ND	120	ug/kg	24
4-Nitrotoluene	ND	120	ug/kg	76
RDX	ND	120	ug/kg	20
Tetryl	ND	120	ug/kg	22
1,3,5-Trinitrobenzene	ND	120	ug/kg	12
2,4,6-Trinitrotoluene	ND	120	ug/kg	13
PETN	ND	120	ug/kg	76
Nitroglycerin	ND	120	ug/kg	61
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
Nitrobenzene-d5	103	<u>LIMITS</u>		
		(66 - 156)		

## NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

KENNEDY/JENKS CONSULTANTS

Client Sample ID: OTS-1-SFC-11-7-01

**General Chemistry**

Lot-Sample #....: D1K080347-001    Work Order #....: ENLTG              Matrix.....: SOLID  
Date Sampled....: 11/07/01 09:30    Date Received...: 11/08/01  
% Moisture.....: 2.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
Percent Moisture	2.2	0.10	%	MCAWW 160.3 MOD	ANALYSIS DATE	BATCH #
Dilution Factor: 1				Analysis Time...: 15:00	11/15/01	1320355
					MDL.....	

KENNEDY/JENKS CONSULTANTS

Client Sample ID: OTS-2-SFC-11-7-01

General Chemistry

Lot-Sample #....: D1K080347-002    Work Order #....: ENLTJ              Matrix.....: SOLID  
Date Sampled...: 11/07/01 09:40    Date Received...: 11/08/01  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Moisture	11.1	0.10	%	MCAWW 160.3 MOD	11/15/01	1320355
		Dilution Factor: 1		Analysis Time..: 15:00		MDL.....:

**KENNEDY/JENKS CONSULTANTS**

**Client Sample ID: OTS-3-SFC-11-7-01**

**General Chemistry**

**Lot-Sample #....: D1K080347-003    Work Order #....: ENLTK              Matrix.....: SOLID  
Date Sampled....: 11/07/01 09:51    Date Received...: 11/08/01  
% Moisture.....: 1.6**

<b>PARAMETER</b>	<b>RESULT</b>	<b>RL</b>	<b>UNITS</b>	<b>METHOD</b>	<b>PREPARATION-</b>	<b>PREP</b>
					<b>ANALYSIS DATE</b>	<b>BATCH #</b>
<b>Percent Moisture</b>	<b>1.6</b>	<b>0.10</b>	<b>%</b>	<b>MCAWW 160.3 MOD</b>	<b>11/15/01</b>	<b>1320355</b>
		Dilution Factor: 1		Analysis Time..: 15:00	MDL.....	

KENNEDY/JENKS CONSULTANTS

Client Sample ID: OTS-4-SFC-11-7-01

General Chemistry

Lot-Sample #....: D1K080347-004    Work Order #....: ENLTL              Matrix.....: SOLID  
Date Sampled....: 11/07/01 10:03    Date Received...: 11/08/01  
% Moisture.....: 1.6

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-	PREP
					ANALYSIS DATE	BATCH #
Percent Moisture	1.6	0.10	%	MCAWW 160.3 MOD	11/15/01	1320355
		Dilution Factor: 1		Analysis Time...: 15:00		MDL.....:

KENNEDY/JENKS CONSULTANTS

Client Sample ID: DAS-1-SFC-11-7-01

General Chemistry

Lot-Sample #....: D1K080347-005    Work Order #....: ENLTM              Matrix.....: SOLID  
Date Sampled....: 11/07/01 11:17    Date Received...: 11/08/01  
% Moisture.....: 4.3

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-	PREP
					ANALYSIS DATE	BATCH #
Percent Moisture	4.3	0.10	%	MCAWW 160.3 MOD	11/15/01	1320355
		Dilution Factor: 1		Analysis Time...: 15:00		MDL.....

KENNEDY/JENKS CONSULTANTS

Client Sample ID: DAS-2-SFC-11-7-01

General Chemistry

Lot-Sample #....: D1K080347-006    Work Order #....: ENLTN                      Matrix.....: SOLID  
Date Sampled...: 11/07/01 11:20    Date Received...: 11/08/01  
% Moisture.....: 1.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
			%		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Moisture	1.2	0.10	%	MCAWW 160.3 MOD	11/15/01	1320355
		Dilution Factor: 1		Analysis Time...: 15:00		MDL.....:

KENNEDY/JENKS CONSULTANTS

Client Sample ID: DAS-3-SFC-11-7-01

General Chemistry

Lot-Sample #....: D1K080347-007    Work Order #....: ENLTP                      Matrix.....: SOLID  
Date Sampled...: 11/07/01 11:40    Date Received...: 11/08/01  
% Moisture.....: 1.5

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-	PREP
					ANALYSIS	DATE
Percent Moisture	1.5	0.10	%	MCAWW 160.3 MOD	11/15/01	1320355
		Dilution Factor: 1		Analysis Time..: 15:00		MDL.....:

KENNEDY/JENKS CONSULTANTS

Client Sample ID: DAS-4-SFC-11-7-01

General Chemistry

Lot-Sample #....: D1K080347-008    Work Order #....: ENLTQ                Matrix.....: SOLID  
Date Sampled....: 11/07/01 12:00    Date Received...: 11/08/01  
% Moisture.....: 0.92

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
Percent Moisture	0.92	0.10	%	MCAWW 160.3 MOD	ANALYSIS DATE	BATCH #
		Dilution Factor:	1		Analysis Time...: 15:00	MDL.....:

# QC DATA ASSOCIATION SUMMARY

D1K080347

## Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8321A		1319590	1319296
	SOLID	MCAWW 160.3 MOD		1320355	1320182
002	SOLID	SW846 8321A		1319590	1319296
	SOLID	MCAWW 160.3 MOD		1320355	1320182
003	SOLID	SW846 8321A		1319590	1319296
	SOLID	MCAWW 160.3 MOD		1320355	1320182
004	SOLID	SW846 8321A		1319590	1319296
	SOLID	MCAWW 160.3 MOD		1320355	1320182
005	SOLID	SW846 8321A		1319590	1319296
	SOLID	MCAWW 160.3 MOD		1320355	1320182
006	SOLID	SW846 8321A		1319590	1319296
	SOLID	MCAWW 160.3 MOD		1320355	1320182
007	SOLID	SW846 8321A		1319590	1319296
	SOLID	MCAWW 160.3 MOD		1320355	1320182
008	SOLID	SW846 8321A		1319590	1319296
	SOLID	MCAWW 160.3 MOD		1320355	1320182

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: D1K080347  
MB Lot-Sample #: R1K150000-590

Work Order #...: EN3RN1AA

Matrix.....: SOLID

Analysis Date...: 11/20/01  
Dilution Factor: 1

Prep Date.....: 11/15/01  
Prep Batch #: 1319590

Analysis Time..: 17:20

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
2-Amino-4,6-dinitrotoluene	ND	120	ug/kg	SW846 8321A
4-Amino-2,6-dinitrotoluene	ND	120	ug/kg	SW846 8321A
1,3-Dinitrobenzene	ND	120	ug/kg	SW846 8321A
2,4-Dinitrotoluene	ND	120	ug/kg	SW846 8321A
2,6-Dinitrotoluene	ND	120	ug/kg	SW846 8321A
HMX	ND	120	ug/kg	SW846 8321A
Nitrobenzene	ND	120	ug/kg	SW846 8321A
2-Nitrotoluene	ND	120	ug/kg	SW846 8321A
3-Nitrotoluene	ND	120	ug/kg	SW846 8321A
4-Nitrotoluene	ND	120	ug/kg	SW846 8321A
RDX	ND	120	ug/kg	SW846 8321A
Tetryl	ND	120	ug/kg	SW846 8321A
1,3,5-Trinitrobenzene	ND	120	ug/kg	SW846 8321A
2,4,6-Trinitrotoluene	ND	120	ug/kg	SW846 8321A
PETN	ND	120	ug/kg	SW846 8321A
Nitroglycerin	ND	120	ug/kg	SW846 8321A
SURROGATE	PERCENT RECOVERY	RECOVERY		
		LIMITS	(66 - 156)	
Nitrobenzene-d5	104			

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

**Client Lot #....:** D1K080347      **Work Order #....:** EN3RN1AC      **Matrix.....:** SOLID  
**LCS Lot-Sample#:** R1K150000-590  
**Prep Date.....:** 11/15/01      **Analysis Date...:** 11/20/01  
**Prep Batch #....:** 1319590      **Analysis Time..:** 17:52  
**Dilution Factor:** 1

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	
2-Amino-4,6-dinitrotoluene	96	(71 - 131)	SW846 8321A
4-Amino-2,6-dinitrotoluene	99	(51 - 140)	SW846 8321A
1,3-Dinitrobenzene	101	(70 - 130)	SW846 8321A
2,4-Dinitrotoluene	101	(73 - 133)	SW846 8321A
2,6-Dinitrotoluene	98	(64 - 126)	SW846 8321A
HMX	87	(36 - 151)	SW846 8321A
Nitrobenzene	100	(70 - 158)	SW846 8321A
2-Nitrotoluene	98	(59 - 164)	SW846 8321A
3-Nitrotoluene	98	(61 - 160)	SW846 8321A
4-Nitrotoluene	98	(59 - 158)	SW846 8321A
RDX	83	(73 - 133)	SW846 8321A
Tetryl	112	(48 - 137)	SW846 8321A
1,3,5-Trinitrobenzene	98	(72 - 132)	SW846 8321A
2,4,6-Trinitrotoluene	96	(47 - 147)	SW846 8321A
PETN	96	(34 - 165)	SW846 8321A
Nitroglycerin	99	(50 - 137)	SW846 8321A
 <u>SURROGATE</u>	 <u>PERCENT</u>	 <u>RECOVERY</u>	
Nitrobenzene-d5	101	(66 - 156)	

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC/MS Semivolatiles

Client Lot #....: D1K080347      Work Order #....: EN3RN1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: R1K150000-590  
 Prep Date.....: 11/15/01      Analysis Date...: 11/20/01  
 Prep Batch #....: 1319590      Analysis Time...: 17:52  
 Dilution Factor: 1

<u>PARAMETER</u>	SPIKE <u>AMOUNT</u>	MEASURED <u>AMOUNT</u>	UNITS	PERCENT <u>RECOVERY</u>	METHOD
2-Amino-4,6-dinitrotoluene	1000	956	ug/kg	96	SW846 8321A
4-Amino-2,6-dinitrotoluene	1000	991	ug/kg	99	SW846 8321A
1,3-Dinitrobenzene	1000	1010	ug/kg	101	SW846 8321A
2,4-Dinitrotoluene	1000	1010	ug/kg	101	SW846 8321A
2,6-Dinitrotoluene	1000	980	ug/kg	98	SW846 8321A
HMX	1000	866	ug/kg	87	SW846 8321A
Nitrobenzene	1000	1000	ug/kg	100	SW846 8321A
2-Nitrotoluene	1000	984	ug/kg	98	SW846 8321A
3-Nitrotoluene	1000	983	ug/kg	98	SW846 8321A
4-Nitrotoluene	1000	985	ug/kg	98	SW846 8321A
RDX	1000	829	ug/kg	83	SW846 8321A
Tetryl	1000	1120	ug/kg	112	SW846 8321A
1,3,5-Trinitrobenzene	1000	976	ug/kg	98	SW846 8321A
2,4,6-Trinitrotoluene	1000	956	ug/kg	96	SW846 8321A
PETN	1000	958	ug/kg	96	SW846 8321A
Nitroglycerin	1000	994	ug/kg	99	SW846 8321A
<u>SURROGATE</u>		PERCENT <u>RECOVERY</u>		RECOVERY <u>LIMITS</u>	
Nitrobenzene-d5		101		(66 - 156)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #....: D1K080347      Work Order #....: ENLTK1AD-MS      Matrix.....: SOLID  
 MS Lot-Sample #: D1K080347-003      ENLTK1AE-MSD  
 Date Sampled...: 11/07/01 09:51 Date Received...: 11/08/01  
 Prep Date.....: 11/15/01 Analysis Date...: 11/20/01  
 Prep Batch #....: 1319590 Analysis Time...: 20:01  
 Dilution Factor: 1 % Moisture.....: 1.6

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	<u>METHOD</u>
2-Amino-4,6-dinitrotoluene	95	(71 - 131)			SW846 8321A
	95	(71 - 131)	0.34	(0-30)	SW846 8321A
4-Amino-2,6-dinitrotoluene	97	(51 - 140)			SW846 8321A
	95	(51 - 140)	1.9	(0-30)	SW846 8321A
1,3-Dinitrobenzene	99	(70 - 130)			SW846 8321A
	99	(70 - 130)	0.43	(0-30)	SW846 8321A
2,4-Dinitrotoluene	99	(73 - 133)			SW846 8321A
	99	(73 - 133)	0.10	(0-30)	SW846 8321A
2,6-Dinitrotoluene	95	(64 - 126)			SW846 8321A
	95	(64 - 126)	1.0	(0-30)	SW846 8321A
HMX	82	(36 - 151)			SW846 8321A
	79	(36 - 151)	3.5	(0-40)	SW846 8321A
Nitrobenzene	100	(70 - 158)			SW846 8321A
	100	(70 - 158)	0.04	(0-30)	SW846 8321A
2-Nitrotoluene	96	(59 - 164)			SW846 8321A
	98	(59 - 164)	2.0	(0-30)	SW846 8321A
3-Nitrotoluene	97	(61 - 160)			SW846 8321A
	97	(61 - 160)	0.46	(0-40)	SW846 8321A
4-Nitrotoluene	96	(59 - 158)			SW846 8321A
	97	(59 - 158)	0.83	(0-40)	SW846 8321A
RDX	76	(73 - 133)			SW846 8321A
	74	(73 - 133)	2.0	(0-30)	SW846 8321A
Tetryl	17 a	(48 - 137)			SW846 8321A
	42 a,p	(48 - 137)	85	(0-40)	SW846 8321A
1,3,5-Trinitrobenzene	84	(72 - 132)			SW846 8321A
	92	(72 - 132)	9.8	(0-30)	SW846 8321A
2,4,6-Trinitrotoluene	98	(47 - 147)			SW846 8321A
	95	(47 - 147)	2.4	(0-40)	SW846 8321A
PETN	103	(34 - 165)			SW846 8321A
	94	(34 - 165)	9.1	(0-40)	SW846 8321A
Nitroglycerin	65	(50 - 137)			SW846 8321A
	77	(50 - 137)	18	(0-40)	SW846 8321A

(Continued on next page)

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC/MS Semivolatiles

**Client Lot #....:** D1K080347      **Work Order #....:** ENLTK1AD-MS      **Matrix.....:** SOLID  
**MS Lot-Sample #:** D1K080347-003      ENLTK1AE-MSD

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	100	(66 - 156)
	102	(66 - 156)

### NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

p Relative percent difference (RPD) is outside stated control limits.

**MATRIX SPIKE SAMPLE DATA REPORT**

**GC/MS Semivolatiles**

Client Lot #....: D1K080347	Work Order #....: ENLTK1AD-MS	Matrix.....: SOLID
MS Lot-Sample #: D1K080347-003	ENLTK1AE-MSD	
Date Sampled....: 11/07/01 09:51	Date Received...: 11/08/01	
Prep Date.....: 11/15/01	Analysis Date...: 11/20/01	
Prep Batch #....: 1319590	Analysis Time...: 20:01	
Dilution Factor: 1	% Moisture.....: 1.6	

PARAMETER	SAMPLE	SPIKE	MEASRD	PERCENT RECOVERY	RPD	METHOD
	AMOUNT	AMT	AMOUNT			
2-Amino-4,6-dinitrotoluene	ND	1020	967	ug/kg	95	SW846 8321A
	ND	1020	970	ug/kg	95	0.34 SW846 8321A
4-Amino-2,6-dinitrotoluene	ND	1020	989	ug/kg	97	SW846 8321A
	ND	1020	970	ug/kg	95	1.9 SW846 8321A
1,3-Dinitrobenzene	ND	1020	1010	ug/kg	99	SW846 8321A
	ND	1020	1000	ug/kg	99	0.43 SW846 8321A
2,4-Dinitrotoluene	ND	1020	1000	ug/kg	99	SW846 8321A
	ND	1020	1000	ug/kg	99	0.10 SW846 8321A
2,6-Dinitrotoluene	ND	1020	964	ug/kg	95	SW846 8321A
	ND	1020	974	ug/kg	96	1.0 SW846 8321A
HMX	ND	1020	836	ug/kg	82	SW846 8321A
	ND	1020	807	ug/kg	79	3.5 SW846 8321A
Nitrobenzene	ND	1020	1010	ug/kg	100	SW846 8321A
	ND	1020	1010	ug/kg	100	0.04 SW846 8321A
2-Nitrotoluene	ND	1020	974	ug/kg	96	SW846 8321A
	ND	1020	994	ug/kg	98	2.0 SW846 8321A
3-Nitrotoluene	ND	1020	986	ug/kg	97	SW846 8321A
	ND	1020	991	ug/kg	97	0.46 SW846 8321A
4-Nitrotoluene	ND	1020	978	ug/kg	96	SW846 8321A
	ND	1020	986	ug/kg	97	0.83 SW846 8321A
RDX	ND	1020	769	ug/kg	76	SW846 8321A
	ND	1020	754	ug/kg	74	2.0 SW846 8321A
Tetryl	ND	1020	172	ug/kg	17 a	SW846 8321A
	ND	1020	425	ug/kg	42 a,p	85 SW846 8321A
1,3,5-Trinitrobenzene	ND	1020	849	ug/kg	84	SW846 8321A
	ND	1020	936	ug/kg	92	9.8 SW846 8321A
2,4,6-Trinitrotoluene	ND	1020	992	ug/kg	98	SW846 8321A
	ND	1020	969	ug/kg	95	2.4 SW846 8321A
PETN	ND	1020	1050	ug/kg	103	SW846 8321A
	ND	1020	959	ug/kg	94	9.1 SW846 8321A
Nitroglycerin	ND	1020	656	ug/kg	65	SW846 8321A
	ND	1020	785	ug/kg	77	18 SW846 8321A

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: D1K080347      Work Order #...: ENLTK1AD-MS      Matrix.....: SOLID  
MS Lot-Sample #: D1K080347-003                            ENLTK1AE-MSD

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
Nitrobenzene-d5	100	(66 - 156)
	102	(66 - 156)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**Bold print denotes control parameters.**

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

p Relative percent difference (RPD) is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #....: D1K080347      Work Order #....: ENKV6-SMP      Matrix.....: SOLID  
ENKV6-DUP

Date Sampled...: 11/07/01 10:00    Date Received..: 11/08/01

% Moisture.....: 12

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>	<u>BATCH #</u>
Percent Moisture	12.0	11.2	%	6.6	(0-20)	MCAWW	160.3 MOD	SD Lot-Sample #: D1K080267-010	11/15/01	1320355
				Dilution Factor: 1			Analysis Time...: 15:00			

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

## **Sample Chain-of-Custody/Analysis Request**

**Kennedy/Jenks Consultants<sup>SM</sup>**

**Possible Hazards** None

Client Arrow Electronics

Report to Pete Murphy

Site Wyle, Norco.

**Project No.** 9940j2.00

Company Kynsey Tanks

**Address** 2151 Michelson Dr Ste 100

Sampler Name Tui Doyle

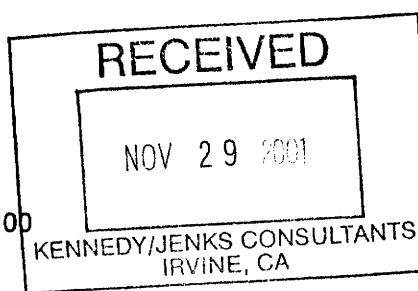
### **Telephone**

Fax

(1) Lab ID No.	(1) Client ID No.	Collection		(2) Type	(3) Depth	(3) Comp.	(4) Pres.	Turn-around	Comments	Comment/Conditions (container type, container number, etc.)
		Date	Time							
OTS-1-SFC-11-7-01	11/7/01	9:30	S	SFC		TCE		X		1,4oz jar
OTS-2-SFC-11-7-01		9:40	/	/		/		/		1,4oz jar
OTS-3-SFC-11-7-01		9:51	/	/		/		/		1,4oz jar
OTS-4-SFC-11-7-01	11/7/01	10:03	S	SFC		TCE		X		1,4oz jar
DAS-1-SFC-11-7-01		11:17	/	/		/		/		1,4oz jar
DAS-2-SFC-11-7-01		11:20	/	/		/		/		1,4oz jar
DAS-3-SFC-11-7-01		11:40	/	/		/		/		1,4oz jar
DAS-4-SFC-11-7-01	11/7/01	12:00	S	SFC		TCE		X		1,4oz jar

- (1) Write only one sample number in each space.  
(2) Specify type of sample(s): Water (W), Solid (S), or indicate type.  
(3) Mark each sample which should be composited in Laboratory as follows: Place an "A" in box for each sample that should be composited into one sample; use sequential letter for additional groups

- (4) Preservation of sample.
  - (5) Write each analysis requested across top. Place an "X" in appropriate column to indicate type of analysis needed for each sample.



Client Kennedy / Jenks Consultants  
2151 Michelson Drive, Suite 100  
Irvine, CA 92673

Attn.: Mr. Pete Murphy

Project: Arrow Electric

P.O. #: 994012.00

Turnaround Time: Normal

Report Date: Monday, November 26, 2001

Received Date: Thursday, November 08, 2001

Log By: mr

Log Time: 9:59

Phone: (949) 261-1577

FAX: (949) 261-2134

### CERTIFICATE OF ANALYSIS

Lab#: A107697-001      Sample ID: DAS-1-1-11-7-01      Matrix: Soil  
Sampled By: Tim Doyle      Date: 11/7/01      Time: 11:17      Source: Wyle, Norco

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. Method: Water Leach    Date: 11/16/01	By dc							
Perchlorate	ND		ug/kg	1	40	EPA 314M	11/21/01 dc	WS29470

Lab#: A107697-002      Sample ID: DAS-2-1-11-7-01      Matrix: Soil  
Sampled By: Tim Doyle      Date: 11/7/01      Time: 11:20      Source: Wyle, Norco

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. Method: Water Leach    Date: 11/16/01	By dc							
Perchlorate	ND		ug/kg	1	40	EPA 314M	11/21/01 dc	WS29470

Lab#: A107697-003      Sample ID: DAS-3-1-11-7-01      Matrix: Soil  
Sampled By: Tim Doyle      Date: 11/7/01      Time: 11:40      Source: Wyle, Norco

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. Method: Water Leach    Date: 11/16/01	By dc							
Perchlorate	ND		ug/kg	1	40	EPA 314M	11/21/01 dc	WS29470

Lab#: A107697-004      Sample ID: DAS-4-1-11-7-01      Matrix: Soil  
Sampled By: Tim Doyle      Date: 11/7/01      Time: 12:00      Source: Wyle, Norco

Parameter	Result	Flag	Units	Dilution Factor	RL	Method	Analyzed	Worksheet #
Prep. Method: Water Leach    Date: 11/16/01	By dc							
Perchlorate	ND		ug/kg	1	40	EPA 314M	11/21/01 dc	WS29470



Weck Laboratories, Inc.

Environmental and Analytical Services - Since 1964

Client: Kennedy / Jenks Consultants  
Project Name: Arrow Electric

Report Date: Monday, November 26, 2001

### CERTIFICATE OF ANALYSIS

A handwritten signature in black ink that reads "Gaynor Kortuna".

Authorized Signature

ELAP # 1132  
LACSD # 10143

Flags for Data Qualifiers:

B = Compound detected in the blank. Sample result equal or less than 10 times the concentration in the blank.  
J = Estimated value, detected but below the reporting limit.  
H = Estimated value, result over the calibration range  
R = Result is suspect, LCS recovery greater than the upper control limit.  
L = Result is suspect, LCS recovery lower than the control limit.  
Q = QC result out of acceptance limits.  
T = Trace detection, detected but below the reporting limit.

Notes:

The Chain of Custody document is part of the analytical report.  
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.  
All results are expressed on wet weight basis unless specified.  
RL = Reporting Limit.  
ND = Not detected, below the reporting limit.  
Sub = Subcontracted analysis, original report enclosed.



Client: Kennedy / Jenks Consultants  
Project Name: Arrow Electric

QC Report Date: Monday, November 26, 2001  
Project #:

## QUALITY CONTROL REPORT

QC Lab#	TestGroup	Parameter	Sample Result	QC Result	Units	Amt. Added/ True Value	%R or RPD for MSD	%RPD for MSD	Low Limit	High Limit
A107697-002MS	314s_ms	Perchlorate	ND	464	ug/kg	500	92.8		65	122
A107697-002MSD	314s_msd	Perchlorate	ND	472	ug/kg	500	94.4	2	66	122
LCS	314s_lcs	Perchlorate		454	ug/kg	500	90.8		85	115
Method Blank	314s_bl	Perchlorate	ND		ug/kg		0			40
Worksheet #:	Lab#:	Test Name						Analyzed Date		
WS29470	A107673-001	Perchlorate in soil by IC						11/21/01		
WS29470	A107673-002	Perchlorate in soil by IC						11/21/01		
WS29470	A107697-001	Perchlorate in soil by IC						11/21/01		
WS29470	A107697-002	Perchlorate in soil by IC						11/21/01		
WS29470	A107697-003	Perchlorate in soil by IC						11/21/01		
WS29470	A107697-004	Perchlorate in soil by IC						11/21/01		

## Note:

ND = Not Detected

MS = Matrix Spike

MSD = Matrix Spike Duplicate

SURR = Surrogate

BL = Blank

DUP = Duplicate

RPD = Relative Percent Deviation

LCS = Laboratory Control Standard

# **Sample Chain-of-Custody/Analysis Request**

A107697 (001-004)

**Kennedy/Jenks Consultants**

Possible Hazards Vacs  
Client Arrow Electric Report to Pete Murphy  
Site Wyle, Norco Company Kennedy Junkie  
Project No. 994012-00 Address 2151 Michelson Dr. Ste 100  
Sampler Name Twin Doyle Irvine, CA 92614  
Telephone (714) 835-9785 Fax


**Lab Destination** 14859 East Clark Ave  
Industry, Ca

**Address** 14859 East Clark Ave  
Industry, Ca

**Telephone** \_\_\_\_\_

**Carrier/Way Bill No.** \_\_\_\_\_

**Comment/Conditions**  
(container type, container number, etc.)

1 B/S Samples ready on  
1 B/C ice @ 6°C v/v  
1 R/S CA overnight  
1 B/C

- (1) Write only one sample number in each space.  
 (2) Specify type of sample(s): Water (W), Solid (S), or indicate type.  
 (3) Mark each sample which should be composited in Laboratory as follows: Place an "A" in box for each sample that should be composited into one sample; use sequential letter for additional groups.

(4) Preservation of sample.  
 (5) Write each analysis requested across top. Place an "X" in appropriate column to indicate type of analysis needed for each sample.



## ***ORANGE COAST ANALYTICAL, INC.***

3002 Dow, Suite 532, Tustin, CA 92780 (714) 832-0064 Fax (714) 832-0067  
4620 E. Elwood, Suite 4, Phoenix, AZ 85040 (480) 736-0960 Fax (480) 736-0970

### **LABORATORY REPORT FORM**

Laboratory Name: ORANGE COAST ANALYTICAL, INC.

Address: 3002 Dow Suite 532 Tustin, CA 92780

Telephone: (714) 832-0064

Laboratory Certification

(ELAP) No.: 1416 Expiration Date: 2003

Laboratory Director's Name (Print): Mark Noorani

Client: Kennedy Jenks Consultants

Project No.: 994012.00

Project Name: Wyle

Laboratory Reference: KJC 13042

Analytical Method: 418.1, CCID, 8010, Cam Metals

Date Sampled: 11/07/01

Date Received: 11/07/01

Date Reported: 11/15/01

Sample Matrix: Soil

Chain of Custody Received: Yes

Laboratory Director's Signature: Mark Noorani

**Kennedy Jenks Consultants**

ATTN: Mr. Peter Murphy  
2151 Michelson Dr. Suite 100  
Irvine, CA 92612

**Client Project ID:** Wyle  
**Client Project #:** 994012.00

**Sample Description:** Soil

**Sampled:** 11/07/01  
**Received:** 11/07/01  
**Analyzed:** 11/12/01  
**Reported:** 11/15/01

**Laboratory Reference #:** KJC 13042

**TOTAL RECOVERABLE PETROLEUM HYDROCARBONS (EPA 418.1)**

<b>LABORATORY SAMPLE NUMBER</b>	<b>CLIENT SAMPLE NUMBER</b>	<b>SAMPLE RESULTS mg/kg</b>
MB1112	---	N.D.
01110043	DAS-1-1-11-7-01	175
01110044	DAS-2-1-11-7-01	N.D.
01110045	DAS-3-1-11-7-01	N.D.
01110046	DAS-4-1-11-7-01	N.D.

---

**Detection Limit:** 8.0

Analyte reported as N.D. was not present above the stated limit of detection.

**Kennedy Jenks Consultants**  
ATTN: Mr. Peter Murphy  
2151 Michelson Dr. Suite 100  
Irvine, CA 92612

**Client Project ID:** Wyle  
**Client Project #:** 994012.00

<b>SAMPLE DESCRIPTION (Soil)</b>	<b>Sampled:</b>	---	11/07/01	11/07/01
	<b>Received:</b>	---	11/07/01	11/07/01
	<b>Analyzed:</b>	11/09/01	11/09/01	11/09/01
<b>Laboratory Reference #:</b> KJC 13042	<b>Reported:</b>	11/15/01	11/15/01	11/15/01
	<b>Lab Sample I.D.</b>	MB1109	01110043	01110044
	<b>Client Sample I.D.</b>	---	DAS-1-1-	DAS-2-1-
			11-7-01	11-7-01

**ANALYTICAL TEST RESULTS EPA 8010**

<b>ANALYTE</b>	<b>DETECTION</b>	<b>SAMPLE RESULTS</b>		
	<b>LIMIT</b> <b>µg/kg</b>	<b>µg/kg</b>	<b>µg/kg</b>	<b>µg/kg</b>
Bromodichloromethane	5.0	<5.0	<5.0	<5.0
Bromoform	5.0	<5.0	<5.0	<5.0
Bromomethane	10	<10	<10	<10
Carbon Tetrachloride	5.0	<5.0	<5.0	<5.0
Chlorobenzene	5.0	<5.0	<5.0	<5.0
Chlorodibromomethane	5.0	<5.0	<5.0	<5.0
Chloroethane	10	<10	<10	<10
2-Chloroethyl vinyl ether	25	<25	<25	<25
Chloroform	10	<10	<10	<10
Chloromethane	10	<10	<10	<10
1,2-Dichlorobenzene	10	<10	<10	<10
1,3-Dichlorobenzene	10	<10	<10	<10
1,4-Dichlorobenzene	10	<10	<10	<10
1,1-Dichloroethane	5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene	5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene	5.0	<5.0	<5.0	<5.0
Methylene chloride	20	<20	<20	<20
1,1,2,2-Tetrachloroethane	5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	5.0	<5.0	<5.0	<5.0
Trichloroethene	5.0	<5.0	<5.0	<5.0
Trichlorofluoromethane	25	<25	<25	<25
Vinyl Chloride	10	<10	<10	<10

**Kennedy Jenks Consultants**

ATTN: Mr. Peter Murphy  
 2151 Michelson Dr. Suite 100  
 Irvine, CA 92612

**Client Project ID:** Wyle  
**Client Project #:** 994012.00

<b>SAMPLE DESCRIPTION (Soil)</b>	<b>Sampled:</b>	11/07/01	11/07/01
	<b>Received:</b>	11/07/01	11/07/01
	<b>Analyzed:</b>	11/09/01	11/09/01
<b>Laboratory Reference #:</b> KJC 13042	<b>Reported:</b>	11/15/01	11/15/01
	<b>Lab Sample I.D.</b>	01110045	01110046
	<b>Client Sample I.D.</b>	DAS-3-1- 11-7-01	DAS-4-1- 11-7-01

**ANALYTICAL TEST RESULTS EPA 8010**

<b>ANALYTE</b>	<b>DETECTION LIMIT μg/kg</b>	<b>SAMPLE RESULTS</b>	
		<b>μg/kg</b>	<b>μg/kg</b>
Bromodichloromethane	5.0	<5.0	<5.0
Bromoform	5.0	<5.0	<5.0
Bromomethane	10	<10	<10
Carbon Tetrachloride	5.0	<5.0	<5.0
Chlorobenzene	5.0	<5.0	<5.0
Chlorodibromomethane	5.0	<5.0	<5.0
Chloroethane	10	<10	<10
2-Chloroethyl vinyl ether	25	<25	<25
Chloroform	10	<10	<10
Chloromethane	10	<10	<10
1,2-Dichlorobenzene	10	<10	<10
1,3-Dichlorobenzene	10	<10	<10
1,4-Dichlorobenzene	10	<10	<10
1,1-Dichloroethane	5.0	<5.0	<5.0
1,2-Dichloroethane	5.0	<5.0	<5.0
1,1-Dichloroethene	5.0	<5.0	<5.0
cis-1,2-Dichloroethene	5.0	<5.0	<5.0
trans-1,2-Dichloroethene	5.0	<5.0	<5.0
1,2-Dichloropropane	5.0	<5.0	<5.0
cis-1,3-Dichloropropene	5.0	<5.0	<5.0
trans-1,3-Dichloropropene	5.0	<5.0	<5.0
Methylene chloride	20	<20	<20
1,1,2,2-Tetrachloroethane	5.0	<5.0	<5.0
Tetrachloroethene	5.0	<5.0	<5.0
1,1,1-Trichloroethane	5.0	<5.0	<5.0
1,1,2-Trichloroethane	5.0	<5.0	<5.0
Trichloroethene	5.0	<5.0	<5.0
Trichlorofluoromethane	25	<25	<25
Vinyl Chloride	10	<10	<10

**Kennedy Jenks Consultants**

ATTN: Mr. Peter Murphy  
2151 Michelson Dr. Suite 100  
Irvine, CA 92612

**Client Project ID:** Wyle  
**Client Project #:** 994012.00

**Analysis Method:** 8015m

**Sampled:** 11/07/01  
**Received:** 11/07/01  
**Analyzed:** 11/08/01  
**Reported:** 11/15/01

**Sample Description:** Soil  
**Laboratory Reference #:** KJC 13042

<b>Client Sample #:</b>	---	DAS-1-1- 11-7-01	DAS-2-1- 11-7-01	DAS-3-1- 11-7-01	DAS-4-1- 11-7-01
<b>Lab Sample #:</b>	MB1108	01110043	01110044	01110045	01110046
<b>Reporting Unit:</b>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
C7-9	N.D.	N.D.	N.D.	N.D.	N.D.
C10-11	N.D.	N.D.	N.D.	N.D.	N.D.
C12-13	N.D.	N.D.	N.D.	N.D.	N.D.
C14-15	N.D.	N.D.	N.D.	N.D.	N.D.
C16-17	N.D.	0.56	N.D.	N.D.	N.D.
C18-19	N.D.	2.9	N.D.	N.D.	N.D.
C20-21	N.D.	23	N.D.	N.D.	N.D.
C22-23	N.D.	23	N.D.	N.D.	N.D.
C24-25	N.D.	29	N.D.	N.D.	N.D.
C26-27	N.D.	26	N.D.	N.D.	N.D.
C28-30	N.D.	51	N.D.	N.D.	N.D.
<b>Total</b>	N.D.	160	N.D.	N.D.	N.D.
<b>Detection Limit</b>	8.0	8.0	8.0	8.0	8.0

Extractable hydrocarbons are quantitated against a diesel standard. Hydrocarbons detected by this method range from C7 to C30. Analytes reported as N.D. were not present above the stated limit of detection.

**Kennedy Jenks Consultants**  
ATTN: Mr. Peter Murphy  
2151 Michelson Dr. Suite 100  
Irvine, CA 92612

**Client Project ID:** Wyle  
**Client Project #:** 994012.00

<b>SAMPLE DESCRIPTION (Soil)</b>	<b>Sampled:</b>	---	11/07/01	11/07/01
	<b>Received:</b>	---	11/07/01	11/07/01
	<b>Reported:</b>	11/15/01	11/15/01	11/15/01

Laboratory Reference #: KJC 13042

	<b>Lab Sample I.D.</b>	MB	01110043	01110044
	<b>Client Sample I.D.</b>	---	DAS-1-1- 11-7-01	DAS-2-1- 11-7-01

**CCR METALS**

<b>ANALYTE</b>	<b>DATE TESTED</b>	<b>EPA METHOD</b>	<b>DETECTION LIMIT</b>	<b>SAMPLE RESULTS</b>		
			<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
Antimony	11/08/01	6010	5.0	<5.0	<5.0	<5.0
Arsenic	11/08/01	6010	1.0	<1.0	3.0	2.0
Barium	11/08/01	6010	0.5	<0.5	91	79
Beryllium	11/08/01	6010	0.5	<0.5	<0.5	<0.5
Cadmium	11/08/01	6010	0.5	<0.5	1.6	<0.5
Chromium (VI)	11/12/01	7196	0.5	<0.5	<0.5	<0.5
Chromium (Total)	11/08/01	6010	0.5	<0.5	89	12
Cobalt	11/08/01	6010	0.5	<0.5	5.2	4.1
Copper	11/08/01	6010	0.5	<0.5	20	8.8
Lead	11/08/01	6010	1.0	<1.0	28	14
Mercury	11/09/01	7471	0.1	<0.1	1.6	<0.1
Molybdenum	11/08/01	6010	1.0	<1.0	<1.0	<1.0
Nickel	11/08/01	6010	0.5	<0.5	13	5.3
Selenium	11/08/01	6010	5.0	<5.0	<5.0	<5.0
Silver	11/08/01	6010	0.5	<0.5	0.84	<0.5
Thallium	11/08/01	6010	5.0	<5.0	<5.0	<5.0
Vanadium	11/08/01	6010	0.5	<0.5	31	25
Zinc	11/08/01	6010	0.5	<0.5	83	39

**Kennedy Jenks Consultants**  
ATTN: Mr. Peter Murphy  
2151 Michelson Dr. Suite 100  
Irvine, CA 92612

**Client Project ID:** Wyle  
**Client Project #:** 994012.00

**SAMPLE DESCRIPTION (Soil)**

<b>Sampled:</b>	11/07/01	11/07/01
<b>Received:</b>	11/07/01	11/07/01
<b>Reported:</b>	11/15/01	11/15/01

Laboratory Reference #: KJC 13042

**Lab Sample I.D.** 01110043    **01110044**  
**Client Sample I.D.** DAS-3-1-    DAS-4-1-  
                          11-7-01    11-7-01

**CCR METALS**

<b>ANALYTE</b>	<b>DATE TESTED</b>	<b>EPA METHOD</b>	<b>DETECTION LIMIT</b> <i>mg/kg</i>	<b>SAMPLE RESULTS</b>	
				<i>mg/kg</i>	<i>mg/kg</i>
Antimony	11/08/01	6010	5.0	<5.0	<5.0
Arsenic	11/08/01	6010	1.0	1.9	2.1
Barium	11/08/01	6010	0.5	80	69
Beryllium	11/08/01	6010	0.5	<0.5	<0.5
Cadmium	11/08/01	6010	0.5	<0.5	<0.5
Chromium (VI)	11/12/01	7196	0.5	<0.5	<0.5
Chromium (Total)	11/08/01	6010	0.5	8.9	9.1
Cobalt	11/08/01	6010	0.5	5.0	3.7
Copper	11/08/01	6010	0.5	7.7	7.8
Lead	11/08/01	6010	1.0	4.9	28
Mercury	11/09/01	7471	0.1	<0.1	<0.1
Molybdenum	11/08/01	6010	1.0	<1.0	<1.0
Nickel	11/08/01	6010	0.5	5.2	5.1
Selenium	11/08/01	6010	5.0	<5.0	<5.0
Silver	11/08/01	6010	0.5	<0.5	<0.5
Thallium	11/08/01	6010	5.0	<5.0	<5.0
Vanadium	11/08/01	6010	0.5	23	23
Zinc	11/08/01	6010	0.5	29	35

## QC DATA REPORT

Analysis : Volatile Organic Compounds (EPA 8010)

Date of Analysis : 11/09/01

Laboratory Sample No : 01110014

Laboratory Reference No : KJC 13042

Analyte	R1 (ppb)	SP (ppb)	MS (ppb)	MSD (ppb)	PR1 %	PR2 %	RPD %
1,1-Dichloroethane	0.0	50	50	50	100	100	0
Trichloroethene	0.0	50	48	47	96	94	2
Tetrachloroethene	0.0	50	56	54	112	108	4

### Definition of Terms :

R1                  Results Of First Analysis

SP                  Spike Concentration Added to Sample

MS                  Matrix Spike Results

MSD                Matrix Spike Duplicate Results

PR1                Percent Recovery Of MS:  $\{(MS-R1) / SP\} \times 100$

PR2                Percent Recovery Of MSD:  $\{(MSD-R1) / SP\} \times 100$

RPD                Relative Percent Difference:  $\{(MS-MSD) / (MS+MSD)\} \times 100 \times 2$

## QC DATA REPORT

Analysis : Total Recoverable Petroleum Hydrocarbons (EPA 418.1)

Date of Analysis : 11/12/01

Laboratory Sample No : 01110045

Laboratory Reference No : KJC 13042

Analyte	R1 (ppm)	SP (ppm)	MS (ppm)	MSD (ppm)	PR1 %	PR2 %	RPD %
Hydrocarbons	0.0	100	108	102	108	102	6

Definition of Terms :

R1                   Results Of First Analysis

SP                   Spike Concentration Added to Sample

MS                   Matrix Spike Results

MSD                  Matrix Spike Duplicate Results

PR1                  Percent Recovery Of MS:  $\{(MS-R1) / SP\} \times 100$

PR2                  Percent Recovery Of MSD:  $\{(MSD-R1) / SP\} \times 100$

RPD                  Relative Percent Difference:  $\{(MS-MSD) / (MS+MSD)\} \times 100 \times 2$

## QC DATA REPORT

Analysis : Metals

Laboratory Reference No : KJC 13042

Analyte	Date Tested	QC Sample	R1 (ppm)	SP (ppm)	MS (ppm)	MSD (ppm)	PR1 %	PR2 %	RPD %
Antimony	11/08/01	01110043	0.0	10.0	9.65	9.67	97	97	0
Arsenic	11/08/01	01110043	0.059	10.0	10.2	10.1	101	100	1
Barium	11/08/01	01110043	1.8	5.00	6.60	6.56	96	95	1
Beryllium	11/08/01	01110043	0.0	1.00	1.06	1.06	106	106	0
Cadmium	11/08/01	01110043	0.032	1.00	1.10	1.09	107	106	1
Chromium (Total )	11/08/01	01110043	1.8	1.00	2.72	2.73	92	93	0
Chromium ( VI )	11/12/01	01110092	0.0	5.00	4.22	4.17	84	83	1
Cobalt	11/08/01	01110043	0.10	1.00	1.04	1.03	94	93	1
Copper	11/08/01	01110043	0.40	1.00	1.44	1.44	104	104	0
Lead	11/08/01	01110043	0.56	5.00	5.08	5.11	90	91	1
Mercury	11/09/01	01110098	0.0	1.00	0.803	0.862	80	86	7
Molybdenum	11/08/01	01110043	0.0	5.00	4.91	4.87	98	97	1
Nickel	11/08/01	01110043	0.26	5.00	5.14	5.10	98	97	1
Selenium	11/08/01	01110043	0.0	10.0	10.2	10.2	102	102	0
Silver	11/08/01	01110043	0.0	1.00	1.05	1.04	103	102	1
Thallium	11/08/01	01110043	0.0	10.0	8.78	8.69	88	87	1
Vanadium	11/08/01	01110043	0.62	5.00	5.70	5.64	102	100	1
Zinc	11/08/01	01110043	1.7	5.00	6.41	6.31	94	92	2

### Definition of Terms :

R1	Results Of First Analysis
SP	Spike Concentration Added to Sample
MS	Matrix Spike Results
MSD	Matrix Spike Duplicate Results
PR1	Percent Recovery Of MS: $\{(MS-R1) / SP\} \times 100$
PR2	Percent Recovery Of MSD: $\{(MSD-R1) / SP\} \times 100$
RPD	Relative Percent Difference: $\{(MS-MSD) / (MS+MSD)\} \times 100 \times 2$

## QC DATA REPORT

Analysis : Extractable Fuel Hydrocarbons (EPA 8015m)

Date of Analysis : 11/08/01

Laboratory Sample No : 01110038

Laboratory Reference No : KJC 13042

Analyte	R1 (ppm)	SP (ppm)	MS (ppm)	MSD (ppm)	PR1 %	PR2 %	RPD %
Hydrocarbons	0.0	100	82	77	82	77	6

Definition of Terms :

R1                   Results Of First Analysis

SP                   Spike Concentration Added to Sample

MS                   Matrix Spike Results

MSD                 Matrix Spike Duplicate Results

PR1                 Percent Recovery Of MS:  $\{(MS-R1) / SP\} \times 100$

PR2                 Percent Recovery Of MSD:  $\{(MSD-R1) / SP\} \times 100$

RPD                 Relative Percent Difference:  $\{(MS-MSD) / (MS+MSD)\} \times 100 \times 2$

## **Sample Chain-of-Custody/Analysis Request**

**Kennedy/Jenks Consultants**

### **Possible Hazards**

Vocie

**Client** John Doe

Report to Pete Murphy

**Site** Wyke Naze

**Company Kenneth Jenkins**

**Project No.** 994012-12

### **Address**

**Sampler Name** Terri Doyle

**Telephone** 661-835-9785

**Fax**

- (1) Write only one sample number in each space.  
 (2) Specify type of sample(s): Water (W), Solid (S), or indicate type.  
 (3) Mark each sample which should be composited in Laboratory as follows: Place an "A" in box for each sample that should be composited into one sample; use sequential letter for additional groups.



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## LABORATORY REPORT

Prepared For: Environ-Irvine  
 2010 Main Street, 9th Floor  
 Irvine, CA 92614  
 Attention: Carol Serlin

Project: Wyle Laboratory  
 04-8099D

Sampled: 04/24/03  
 Received: 04/24/03  
 Revised: 06/13/03

NELAP #01108CA CA ELAP #1197

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*This entire report was reviewed and approved for release.*

## CASE NARRATIVE

- SAMPLE RECEIPT: Samples were received intact, at 11°C, on ice and with chain of custody documentation.
- HOLDING TIMES: Holding times were met.
- PRESERVATION: Samples requiring preservation were verified prior to sample analysis.
- QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
- COMMENTS: Results for sample IMD1339-02 (SB2-13.5-14) are included in this report. All other results are reported under separate cover.
- SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IMD1339-02	SB2-13.5-14	Soil

Del Mar Analytical, Irvine  
 Patty Mata  
 Project Manager

IMD1339 <Page 1 of 5>



**Del Mar Analytical**

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Attention: Carol Serlin

Project ID: Wyle Laboratory  
04-8099D  
Report Number: IMD1339

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Sampled: 04/24/03  
Received: 04/24/03

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<u><b>Batch: 3D24070 Extracted: 04/24/03</b></u>										
<u><b>Blank Analyzed: 04/25/03 (3D24070-BLK1)</b></u>										
Perchlorate	ND	0.020	mg/kg							
<u><b>LCS Analyzed: 04/25/03 (3D24070-BS1)</b></u>										
Perchlorate	0.487	0.020	mg/kg	0.500		97	85-115			
<u><b>Matrix Spike Analyzed: 04/25/03 (3D24070-MS1)</b></u>										
Perchlorate	0.454	0.020	mg/kg	0.500	ND	91	80-120			
<u><b>Matrix Spike Dup Analyzed: 04/25/03 (3D24070-MSD1)</b></u>										
Perchlorate	0.441	0.020	mg/kg	0.500	ND	88	80-120	3	20	

**Del Mar Analytical, Irvine**  
Patty Mata  
Project Manager

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 04/24/03  
Received: 04/24/03

## DATA QUALIFIERS AND DEFINITIONS

- ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.  
RPD Relative Percent Difference

Del Mar Analytical, Irvine  
Patty Mata  
Project Manager

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